

WHAT IS CLAIMED:

1. A circuit, comprising:
 - a measurement circuit coupled to receive a first input signal from a first antenna of a transmitter and coupled to receive a second input signal from a second antenna of the transmitter, each of the first and second input signals being transmitted at a first time, the measurement circuit producing an output signal corresponding to a magnitude of the first and second input signals; and
 - a control circuit coupled to receive the output signal and a reference signal, the control circuit arranged to produce a control signal at a second time in response to a comparison of the output signal and the reference signal.
2. A circuit as in claim 1, wherein each of the first and second input signals comprise at least one pilot symbol.
3. A circuit as in claim 2, wherein each of the first and second input signals is a wideband code division multiple access signal.
4. A circuit as in claim 3, wherein the output signal comprises a sum of the magnitude of each of the first and second input signals and wherein each of the control signal comprises at least one transmit power control signal.
5. A circuit as in claim 3, wherein the output signal comprises a first output signal and a second output signal, the first output signal corresponding to a magnitude of the first input signal and the second output signal corresponding to a magnitude of the second input signal and wherein the control signal comprises at least one transmit power control signal.
6. A circuit as in claim 5, wherein the at least one transmit power control signal comprises a first and a second transmit power control signal, each of the first and second transmit power control signals set to control transmit power of respective said first and second antennas.

7. A circuit as in claim 1, further comprising an estimate circuit coupled to receive at least a first predetermined signal and a second predetermined signal from the transmitter source, each of the first and second predetermined signals having respective predetermined values, the estimate circuit producing the first estimate signal and the second estimate signal in response to the first and second predetermined signals.
8. A circuit as in claim 7, wherein each of the first and second predetermined signals are pilot symbols.
9. A circuit as in claim 8, wherein the measurement circuit, the control circuit and the estimate circuit are formed on a single integrated circuit.
10. A circuit as in claim 8, wherein each of the first and second estimate signals is a Rayleigh fading parameter estimate.
11. A circuit as in claim 8, wherein a total path diversity of each of the first and second symbol estimates is at least twice a number of transmitting antennas.
12. A circuit as in claim 1, wherein the measurement is further coupled to receive a third input signal from a third antenna of the transmitter and coupled to receive a fourth input signal from a fourth antenna of the transmitter, each of the third and fourth input signals being transmitted at the first time, and wherein the output signal further corresponds to a magnitude of the third and fourth input signals.
13. A circuit as in claim 12, wherein each of the input signals comprise at least one pilot symbol.

14. A circuit as in claim 12, wherein each of the input signals is a wideband code division multiple access signal.
15. A circuit as in claim 12, wherein the output signal corresponds to a sum of magnitudes of the input signals.
16. A circuit as in claim 12, wherein the control signal comprises at least one transmit power control signal.
17. A circuit, comprising:
a measurement circuit coupled to receive a first input signal from a first antenna of a transmitter at a first time and coupled to receive a second input signal from a second antenna of the transmitter at a third time, the measurement circuit producing a first output signal corresponding to a magnitude of the first input signal and producing a second output signal corresponding to a magnitude of the second input signal; and
a control circuit coupled to receive the first and second output signals and a reference signal, the control circuit arranged to produce a first control signal at a second time after the first time in response to a comparison of the first output signal and the reference signal, the control circuit arranged to produce a second control signal at a fourth time after the third time in response to a comparison of the second output signal and the reference signal.
18. A circuit as in claim 17, wherein each of the first and second input signals comprise at least one pilot symbol.
19. A circuit as in claim 17, wherein each of the first and second control signals comprise at least one transmit power control signal.
20. A circuit as in claim 17, wherein each of the first and second input signals is a wideband code division multiple access signal.

21. A circuit as in claim 17, further comprising an estimate circuit coupled to receive at least a first predetermined signal and a second predetermined signal from the transmitter source, each of the first and second predetermined signals having respective predetermined values, the estimate circuit producing the first estimate signal and the second estimate signal in response to the first and second predetermined signals.
22. A method of processing signals for a communication system, comprising the steps of:
receiving a plurality of input signals being transmitted at a first time, the plurality of input signals corresponding to a respective plurality of antennas;
measuring each input signal of the plurality of input signals and producing at least one output signal;
comparing the at least one output signal to a reference signal;
producing at least one control signal in response to the step of comparing; and
transmitting the at least one control signal at a second time.
23. A method of processing signals as in claim 22, further comprising the steps of:
receiving a plurality of predetermined signals from the plurality of antennas; and
producing a channel estimate in response to the plurality of predetermined signals.
24. A method of processing signals as in claim 23, wherein the at least one control signal comprises at least one transmit power control signal and wherein the plurality of predetermined signals comprise pilot symbol signals.
25. A method of processing signals for a communication system, comprising the steps of:
receiving at least one control signal transmitted from an external source at a first time;
producing a transmit power level of each of a plurality of antennas in response to the control signal;

transmitting a plurality of signals to the external source at a respective said transmit power level at a second time from a respective said plurality of antennas.

26. A method of processing signals as in claim 25, wherein the at least one control signal comprises at least one transmit power control signal.

27. A method of processing signals as in claim 26, wherein the respective said transmit power level has a same transmit power adjustment for each of said plurality of antennas in response to one transmit power control signal.

28. A method of processing signals as in claim 26, wherein the at least one transmit power control signal includes a plurality of transmit power control signals, and wherein the respective said transmit power level for each of said plurality of antennas is set by a respective transmit power control signal of the plurality of transmit power control signals.